Use of structured self-monitoring of blood glucose improves HbA1c and diabetes-related distress in Australian adults with non-insulin-treated type 2 diabetes: first results from ‘STeP IT UP’

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This was a 24-week, multi-centre, uncontrolled, observational study.

Although the benefits of structured SMBG have been demonstrated in several US observational studies, it has not previously been shown in Australia. Observational studies have demonstrated that use of structured SMBG is both practical and sustainable in real world clinical settings. Although the benefits of structured SMBG have been demonstrated in several US and European studies, the generalisability of these findings have not yet been shown in Australia.

AIMS

The aims of the Structured Testing Program Implementation Trial (STeP IT UP) were to assess the feasibility of implementing the original STeP study protocol in the real world.

To observe the impact of structured SMBG on HbA1c and diabetes-related distress in adults with non-insulin-treated type 2 diabetes managed in primary care settings across Australia.

METHODS

This was a 24-week, multi-centre, uncontrolled, observational study.

98 adults with non-insulin-treated type 2 diabetes managed in primary care settings across Australia are included in this analysis (Table 1).

Australian clinicians with structured SMBG experience trained participants to use and interpret structured SMBG (3-day, 7-point profiles), using the Accu-Chek 360 tool.5 Using this paper tool, adults with type 2 diabetes record a 7-point SMBG profile (fasting, preprandial/2-h postprandial at each meal, bedtime), document meal sizes and energy levels and comment on their SMBG experiences.

Participants completed the tool prior to their visits at weeks 4, 12 and 24; results were discussed at each visit.

Assessments of HbA1c levels and blood glucose values were made at weeks 4, 12 and 24.

Blood glucose values were categorised as:

- Low: <4 mmol/L
- Within Target: 4-10 mmol/L
- High: >10 mmol/L

Measurements of diabetes-related distress were taken at baseline and week 4.

- Data at weeks 12 and 24 (last non-baseline value carried forward); data regarding change in HbA1c were available for 98 participants.

Table 1. Participant characteristics at baseline (N=98)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Mean (SD) or N (%)</th>
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<tbody>
<tr>
<td>Age, yrs.</td>
<td>61.9 (11.8)</td>
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<tr>
<td>Gender, female</td>
<td>37 (37.8)</td>
</tr>
<tr>
<td>HbA1c, %</td>
<td>8.62 (1.07)</td>
</tr>
<tr>
<td>BMI, kg/m2</td>
<td>31.7 (6.3)</td>
</tr>
<tr>
<td>Weight, kg</td>
<td>90.6 (19.0)</td>
</tr>
<tr>
<td>SD</td>
<td>standard deviation</td>
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REFERENCES